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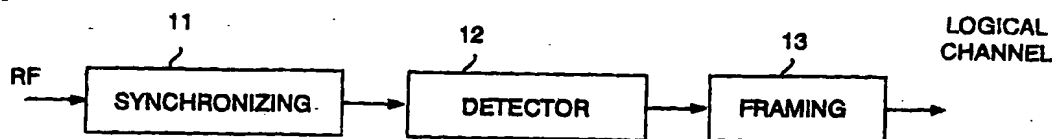
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(54) Title: DETECTION OF INTERFERING SIGNAL IN RADIO RECEIVER



(57) Abstract

A method and equipment for detecting an interfering signal in a time division multiple access (TDMA) radio receiver, in which case samples are taken (50) from a received signal in symbol sequences over a TDMA timeslot (20, 21, 22), a signal path corresponding to the TDMA timeslot, or a portion thereof, is generated by a modulation detector (12), an error estimate representing the erroneousness of the signal path generated is determined (51), the error estimate is compared (52) with a predetermined threshold value, and the reception of the interfering signal is recognized (53) if the error estimate is greater than the predetermined threshold value.

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 99/00443

## A. CLASSIFICATION OF SUBJECT MATTER

IPC6: H04B 1/10

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: H04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 9801959 A1 (NOKIA TELECOMMUNICATIONS OY), 15 January 1998 (15.01.98), page 2, line 24 - page 3, line 2	1,5
A	--	4,8
A	US 5363412 A (ROBERT T. LOVE ET AL), 8 November 1994 (08.11.94), column 4, line 66 - line 68; column 5, line 1 - line 8; column 5, line 36 - line 43	4,8
A	WO 9611533 A2 (NOKIA TELECOMMUNICATIONS OY), 18 April 1996 (18.04.96), see whole document	1,4,5,8

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"I" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

Date of mailing of the international search report

17 November 1999

18-11-1999

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 99/00443

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5323421 A (CHRISTOPHER P. LAROSA ET AL), 21 June 1994 (21.06.94), see whole document  -----	1,4,5,8

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/FI99/00443

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 2-3, 6-7  
because they relate to subject matter not required to be searched by this Authority, namely:  
**See next page**
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/JP99/00443

The claims 2-3 and 6-7 are not considered to be clear and concise and they are not considered to be fully supported in the description (see PCT articles 6 and 17).

In claims 2 and 6, it is uncertain if the applicant means that the half timeslot is a predetermined sequence or not.

In claims 3 and 7, it is unclear what the applicant means by using symbol sequence specific sample points and reference constellation points for calculating the error.

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

02/11/99

International application No.  
PCT/FI 99/00443

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9801959 A1	15/01/98	AU 3346697 A	02/02/98
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		KR 9704774 B	03/04/97
		MX 9306057 A	31/03/94
		WO 9408402 A	14/04/94

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